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Commission on Science and Technology for Development

Report on the twelfth session (25-29 May 2009)

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Commission on Science and Technology for Development

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Note

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Summary

At its twelfth session, the Commission on Science and Technology for Development reviewed the progress made in the implementation of the outcomes of the World Summit on the Information Society. In addition, it considered two priority themes, "Development-oriented policies for socio-economic inclusive information society, including policies access, infrastructure and an enabling environment" and "Science, technology and engineering for innovation and capacity-building in education and research".

The session included a ministerial segment, in which more than 15 Member States were represented at the ministerial level. Participants also included heads of international organizations of the United Nations system or their representatives; representatives of the African Union, the Organization for Economic Cooperation and Development, the Islamic Development Bank and the World Bank; and representatives of civil society and of business entities.

The participants highlighted the following key issues:

- Science, technology and engineering can play a crucial role in addressing some of the key challenges today, including climate change, water, and the food and energy crises. In addition, most of the knowledge that countries need in order to address their most urgent social and economic problems already exists. However, most developing countries face obstacles to harnessing scientific and technological knowledge for development. These include low rates of investment in science and technology, inadequate human and physical capital, weak institutional development and inadequate mechanisms to support research commercialization, weak linkages between research and industry, as well as relatively low awareness of the importance of science, technology and innovation among policymakers and the public.

- Science, technology and innovation policies should be integrated into national development plans and include implementation strategies. It should be imbedded in the development agenda through a well-functioning and dynamic national system of innovation. Participants pointed out that technological capacity-building required long-term efforts; the relevant time frame would be decades rather than years; therefore it was important for policymakers to adopt a long-term strategy supported by commitment at the highest level of government. In addition, these efforts should be accompanied by coherent policies, which cut across all relevant areas of national development strategy, especially those related to education and training, science and technology, industrial development, trade, finance and foreign investment.

- Several participants observed that some of the policy issues related to national innovation systems in a developing-country context were not well understood, especially given the widely divergent circumstances faced by different countries. In this regard, they urged the Commission on Science and Technology for Development to provide a forum for developing countries, the international community, the science, technology and innovation policy research community and other interested parties to share and analyse empirical evidence on technological learning and science, technology and innovation policy impacts; identify critical gaps in "innovation system" understanding that the policy research community might usefully address; and facilitate the sharing of good practice as well as unsuccessful experiences among policymakers.

- Participants urged the Commission on Science and Technology for Development to play the role of torch-bearer for innovation and innovation-oriented planning, and to support efforts by national Governments to integrate science, technology and innovation into national development strategies. They also called on the United Nations Conference on Trade and Development (UNCTAD) to continue to build science, technology and innovation capacities through its science, technology and innovation policy (STIP) reviews, and through its network of centres of excellence project.

- Participants concluded that improved access to information and communication technologies and the creation of an enabling, inclusive environment would arise from — and must be accompanied by — infrastructure improvements. Challenges include, among others, unreliable power supplies, poor transportation networks, lack of fixed telecommunications, lack of fibre-optic connectivity, and the lack of means to exploit technology convergence. Inclusive, pro-poor policies on information and communications technology are essential to overcoming these challenges. Also highlighted was the role of public-private partnerships.

- There was general consensus among the participants that without increasing access to broadband, the information and communications technology and human resource potential in developing countries would remain unlocked. It was also pointed out that information and communications technology applications lacked local content and context, thus the extent to which they can be applied locally was often limited. Therefore, while the digital divide may be shrinking in some areas, large disparities in terms of access to information and communication technologies and knowledge, penetration and affordability still exist, both between developed and developing countries and within countries and regions. Additionally, new forms of the digital divide are emerging regarding broadband and local digital content.

- Participants called on all stakeholders to assist developing countries in their efforts towards narrowing the digital divide, particularly with regard to access, affordability, speed in broadband, local content and data privacy. They also encouraged all stakeholders to continue to cooperate on and to develop information and communications technology partnerships towards capacity-building, technology and knowledge transfer and research and development.

- As a contribution to the theme of the 2009 Economic and Social Council annual ministerial review on "implementing the internationally agreed goals and commitments in regard to global public health", a special panel discussion was devoted to "Delivering innovation in global public health". Participants concluded with several calls for action, to national Governments and the international community.

- Participants requested the Commission on Science and Technology for Development, during its thirteenth session, to organize a substantive discussion on the five-year progress made in the implementation of the World Summit on the Information Society outcomes, including consideration of the modalities of implementation and follow-up to the World Summit on the Information Society.

In chapter I of the present report, the Commission recommends to the Economic and Social Council the adoption of two draft resolutions, on "Assessment of the progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society" and "Science and Technology for Development".

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Chapter I

Matters calling for action by the Economic and Social Council or brought to its attention

A. Draft resolutions for adoption by the Council

1. The Commission on Science and Technology for Development recommends to the Economic and Social Council the adoption of the following draft resolution:

Draft resolution I
Assessment of the progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society*

The Economic and Social Council,

Recalling the outcome documents of the World Summit on the Information Society,[1]

Recognizing the efforts by all stakeholders to implement the outcomes of the two phases of the World Summit on the Information Society, while recognizing also the efforts of the United Nations agencies and other intergovernmental organizations in facilitating activities among different stakeholders,

Recalling the agreements by which the United Nations recognized the various organizations as specialized agencies within the United Nations system,

Recalling the relevant foundational resolutions of the United Nations programmes,

Recalling its resolution 2006/46 of 28 July 2006 on the follow-up to the World Summit on the Information Society and review of the Commission on Science and Technology for Development and the mandate that it gave to the Commission,

Recalling General Assembly resolution 61/16, of 20 November 2006 on the strengthening of the Economic and Social Council,

Recalling also its resolutions 2007/8 of 25 July 2007 on the flow of information for the follow-up to the World Summit on the Information Society, and 2008/3 of 18 July 2008 on the assessment of the progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society,

Recalling General Assembly resolution 63/202, of 19 December 2008 on information and communication technologies for development,

Taking note of the outcomes of the intersessional panel meeting of the Commission, held in Santiago, Chile, from 12 to 14 November 2008, and the report prepared by the secretariat of United Nations Conference on Trade and Development,[2]

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* See chap. II, paras. 23-27.

[1] See A/C.2/59/3, annex, and A/60/687; the outcome documents are also available at www.itu.int/WSIS/index.html.

[2] E/CN.16/2009/CRP.1.

Taking note with satisfaction of the report of the Secretary-General on the progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society at the regional and international levels,[3]

Taking note of the respective reports of the Council of Europe, the Department of Economic and Social Affairs, the Economic Commission for Africa, the Economic Commission for Europe, the Economic Commission for Latin America and the Caribbean, the Economic and Social Commission for Asia and the Pacific, the Economic and Social Commission for Western Asia, the Food and Agriculture Organization of the United Nations, the Global Alliance for Information and Communication Technologies, the Internet Governance Forum, the International Trade Centre UNCTAD/WTO, the International Telecommunication Union, the United Nations Educational, Scientific and Cultural Organization, the United Nations Industrial Development Organization, the Universal Postal Union, the World Health Organization, the World Intellectual Property Organization and the World Meteorological Organization, which were used as inputs to the report of the Secretary-General.[3]

Taking stock: reviewing the implementation of the outcomes of the World Summit on the Information Society

1. *Reaffirms* that information and communication technologies have the potential to provide new solutions to development challenges;

2. *Recognizes* that the economic downturn has led to a slowdown in investments, but at the same time notes the resilience of the information and communication technology sectors and their potential contribution to speed up global economic recovery;

3. *Notes* that while the digital divide may be shrinking in some areas, many challenges remain. Large disparities in terms of access to information and communication technologies and knowledge, penetration and affordability still exist, both between developed and developing countries and within countries and regions and, moreover, new forms of the digital divide are emerging regarding broadband and local digital content;

4. *Stresses* the need to bridge the digital divide and to ensure that the benefits of new technologies, especially information and communication technologies, are available to all. This need poses a challenge for many countries, which are forced to choose between many competing objectives in their development planning and in demands for development funds while having limited resources;

5. *Notes with dissatisfaction* that, for the majority of the poor, the developmental promise of science and technology, including information and communication technologies, remains unfulfilled, and emphasizes the need to effectively harness technology, including information and communication technologies, to bridge the digital divide;

6. *Also recognizes* that information and communication technologies present new opportunities and challenges, and that there is a pressing need to address the major impediments that developing countries face in accessing the new

[3] A/64/64-E/2009/10.

technologies, such as insufficient resources, infrastructure, education, capacity, investment and connectivity and issues related to technology ownership, standards and flows, and in this regard calls upon all stakeholders to provide adequate resources, enhanced capacity-building and transfer of technology to developing countries, particularly the least developed countries;

7. *Notes* that considerable efforts were undertaken and progress made in 2008 towards the implementation of the outcomes of the World Summit on the Information Society, and that numerous activities have been reported by the different entities of the United Nations system, although various relevant activities by non-governmental actors were not reflected by the reporting mechanism in place;

8. *Notes* the respective reports of many United Nations entities, with their own executive summaries, submitted as inputs for the elaboration of the annual report of the Secretary-General to the Commission on Science and Technology for Development and published on the website of the Commission as mandated in Economic and Social Council resolution 2007/8;

9. *Notes* the holding of the cluster of events related to the World Summit on the Information Society in an improved format renamed as WSIS Forum 2009, organized by the International Telecommunication Union, the United Nations Educational, Scientific and Cultural Organization and the United Nations Conference on Trade and Development to facilitate the implementation of the World Summit on the Information Society action lines, and notes that the inclusiveness, interactivity and depth of the discussions of the Forum on the implementation of the action lines in a multi-stakeholder framework can be further enhanced;

10. *Recalls* the importance of close coordination among the leading action line facilitators and with the secretariat of the Commission;

11. *Notes* the results of the 22 May 2009 meeting of the United Nations Group on the Information Society, which agreed, inter alia, to carry out an open consultation on financial mechanisms as requested by the Economic and Social Council in its resolution 2008/3, and highlights the role of the Group in facilitating the implementation of the outcomes of the World Summit on the Information Society under the United Nations System Chief Executives Board for Coordination as requested of the Secretary-General in paragraph 103 of the Tunis Agenda for the Information Society;[4]

12. *Calls upon* international and regional organizations to assess and report on a regular basis on the universal accessibility of nations to information and communication technologies, with the aim of creating equitable opportunities for the growth of the information and communication technology sectors of developing countries;

13. *Notes with regret* that more than three years after the second phase of the World Summit on the Information Society, held in Tunis from 16 to 18 November 2005, the revised guidelines for United Nations country teams on preparing a Common Country Assessment and United Nations Development Assistance Framework still do not reflect the recommendations of the outcome documents of the Summit and do not contain a component on information and communications technology for development, and urges that the necessary coordinated action be

[4] See A/60/687.

taken for implementation of the recommendations in paragraph 100 of the Tunis Agenda for the Information Society;

14. *Reaffirms* the principles enunciated in the World Summit on the Information Society that the Internet has evolved into a global facility available to the public and its governance should constitute a core issue of the information society agenda. The international management of the Internet should be multilateral, transparent and democratic, with the full involvement of Governments, the private sector, civil society and international organizations. It should ensure an equitable distribution of resources, facilitate access for all and ensure a stable and secure functioning of the Internet, taking into account multilingualism;

15. *Notes* the discussions in the Internet Governance Forum as a multi-stakeholder platform on public policy issues related to Internet governance, which were observed by the Secretary-General in his report, expresses appreciation for the work done by the chair, the secretariat and the host Governments of the Internet Governance Forum, and looks forward to the convening of the fourth meeting of the Internet Governance Forum in Egypt in November 2009;

16. *Encourages* all stakeholders to contribute to the online consultations regarding the "desirability of the continuation" of the Internet Governance Forum, as envisaged in paragraph 76 of the Tunis Agenda, and to take into consideration the stakeholders in developing areas that have been unable to get connected online, and urges the Secretary-General to take all appropriate measures to have broad-based consultations;

17. *Notes* that paragraph 80 of the Tunis Agenda refers to development of multi-stakeholder processes at the national, regional and international levels;

18. *Recognizes* the contribution of the World Telecommunication Standardization Assembly 2008 towards enhanced cooperation;

19. *Notes* the conclusion of the Secretary-General on the basis of performance reports from ten organizations relevant to Internet governance that while the efforts made varied in nature among the organizations, the performance reports suggest that the Tunis Agenda's call for enhanced cooperation has been taken seriously by these organizations, and requests the Secretary-General to report to the Economic and Social Council through the Commission on Science and Technology for Development on the progress made towards enhanced cooperation;

20. *Notes* that topics that were not central at the first and second phases of the World Summit on the Information Society in 2003 and 2005 continue to emerge, such as the potential of information and communication technologies to combat climate change, the protection of online privacy and the empowerment and protection, particularly against cyberexploitation and abuse, of vulnerable groups of society, in particular children and young people;

21. *Notes* that a rising Internet penetration alone does not necessarily guarantee an information society for all, and that the information society requires complementary efforts and funds to make access affordable and develop skills to make use of the services and equipment, and develop local content;

22. *Notes* the contribution of the Global Alliance for Information and Communication Technologies to the twelfth session of the Commission on Science and Technology for Development;

23. *Welcomes* the efforts undertaken by Tunisia, host of the second phase of the World Summit on the Information Society, to organize annually the ICT4All Forum and technological exhibition as a platform to promote a dynamic business environment for the information and communication technology sector worldwide;

24. *Calls upon* all States, in building the information society, to take steps with a view to avoiding and to refrain from taking any unilateral measure not in accordance with international law and the Charter of the United Nations that impedes the full achievement of economic and social development by the population of the affected countries and that hinders their well-being;

The road ahead

25. *Encourages* all stakeholders to continue their efforts to implement the World Summit vision of a people-centred, inclusive and development-oriented information society so as to enhance digital opportunities for all people in order to help to bridge the digital divide;

26. *Calls upon* all stakeholders to assist developing countries in their efforts towards narrowing the digital divide, particularly with regard to access, affordability, speed in broadband, local content and data privacy;

27. *Encourages* all stakeholders to continue to cooperate on and to develop information and communication technology partnerships towards capacity-building, transfer of technology and knowledge, and research and development;

28. *Recognizes* the work of the Partnership on Measuring Information and Communication Technology for Development, its institutional strengthening and the creation of the Working Group to measure the economic and social impact of information and communication technologies and recalls resolution 2008/3, in which the Economic and Social Council acknowledged the work of the Partnership on Measuring Information and Communication Technology for Development to develop indicators and recommends that the Partnership consider the creation of benchmarks and impact indicators, for further consideration by the United Nations Statistical Commission;

29. *Notes* the efforts made in developing tools to assess the global digital divide, including, inter alia, the International Telecommunication Union Information and Communication Technology Development Index;

30. *Encourages* all stakeholders to continue to focus on pro-poor information and communication technology policies and applications, including the need for access to broadband at the grass-roots level, with a view to narrowing the digital divide between and within countries;

31. *Encourages* all stakeholders to increase efforts to implement the information and communication technology accessibility concept as contained in article 9 of the Convention on the Rights of Persons with Disabilities;

32. *Calls further* on all stakeholders, in the interest of future generations, to give due attention to digital preservation, and commends the United Nations Educational, Scientific and Cultural Organization and its partners for their work on the World Digital Library, which was inaugurated on 21 April 2009;

33. *Takes note* of the importance of efforts to reduce the environmental effects of the information and communication technology sector and at the same time of the potential of information and communication technologies to reduce environmental impacts in other sectors;

34. *Recognizes* the importance of continuing efforts at the national and international levels to address privacy and security concerns in the use of information and communication technology, and encourages Governments in cooperation with other stakeholders to develop effective approaches in this regard;

35. *Urges* the United Nations entities still not actively cooperating in the World Summit on the Information Society implementation through the United Nations system and its follow-up to take the necessary steps and commit to a people-centred, inclusive and development-oriented information society and to catalyse the attainment of the internationally agreed development goals, including those contained in the Millennium Declaration;

36. *Encourages* the World Summit on the Information Society action line facilitators to increase their efforts to include all stakeholders in the facilitation process on implementing the World Summit on the Information Society action lines and to further enhance the interactivity of the process;

37. *Encourages* the regional commissions to continue to share best practices among themselves to improve the overall implementation of the outcomes of the World Summit on the Information Society;

38. *Encourages* all relevant United Nations agencies, including the regional commissions, to support the development and implementation of national e-Strategies in developing and least developed countries, while encouraging international collaboration, especially South-South cooperation, and North-South partnerships for determining best practices and sharing experiences and resources;

39. *Takes note* of Action Line C7 of the World Summit on the Information Society on e-health and the Millennium Development Goals related to health, as well as the Economic and Social Council annual ministerial review theme for 2009, "Implementing the internationally agreed goals and commitments in regard to global public health";

40. *Encourages* Governments to strive to use information and communication technology to achieve the health-related internationally agreed development goals by increasing multi-stakeholder coordinated efforts at the national and international level;

41. *Encourages* the development of identified national health priorities, a national e-health policy and strategy that brings together the health and information and communication technology sectors to articulate information and communication technology implementation policies and plans for public health;

42. *Encourages* the World Health Organization, the International Telecommunication Union and other United Nations agencies and bodies to coordinate their activities and work closely with relevant stakeholders to develop guidelines for data exchange, which is essential to the successful implementation of health information and communication technology applications and the infrastructure that support them;

43. *Invites* the international community to make voluntary contributions to the special trust fund established by the United Nations Conference on Trade and Development to support the review and assessment work of the Commission on Science and Technology for Development regarding follow-up to the World Summit on the Information Society;

44. *Recommends* mainstreaming information and communication technologies in the economy as a driver of growth and sustainable development and encourages all stakeholders to continue engaging in people-centred partnerships as an effective way forward;

45. *Encourages* collaboration of the World Summit on the Information Society action line facilitators and moderators concerning Action Lines C3, access to information and knowledge, C7, e-science, and C7, e-health, with the Commission on Science and Technology for Development in the context of its traditional mandate;

46. *Requests* the Commission on Science and Technology for Development, during its thirteenth session, which will be held at the half-way point to the 2015 overall review, to organize a substantive discussion on the five-year progress made in the implementation of the World Summit on the Information Society outcomes, including consideration of the modalities of implementation and follow-up to the World Summit on the Information Society, and invites all facilitators and stakeholders to take this into account regarding their contribution to that session;

47. *Requests* the Secretary-General to submit to the Economic and Social Council, through the Commission on Science and Technology for Development, an executive summary on the implementation of the World Summit on the Information Society outcomes by each United Nations agency and programme;

48. *Urges* all United Nations bodies to contribute to the executive summary mentioned in paragraph 47 above, listing the decisions and resolutions of their relevant organs as well as their relevant plans and activities;

49. *Requests* the Secretary-General to submit to the Commission, on a yearly basis, a report on the implementation of the recommendations contained in the Economic and Social Council resolutions on the assessment of the progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society.

Draft resolution II
Science and technology for development*

The Economic and Social Council,

Recalling its decision 2008/219, in which it requested the Secretary-General to report to the Commission on Science and Technology for Development at its twelfth session on the science, technology and innovation priority themes addressed during the current biennium,

Recalling the outcome document of the 2005 World Summit on the Information Society, which emphasizes the role of science and technology, including

* For the discussion, see chap. III, paras. 20-26.

information and communication technologies, as vital for the achievement of the internationally agreed development goals, and reaffirming the commitments contained therein, especially support of efforts of developing countries, individually and collectively, to harness new agricultural technologies in order to increase agricultural productivity through environmentally sustainable means,[5]

Recalling that the United Nations Conference on Trade and Development is the secretariat of the United Nations Commission on Science and Technology for Development,

Welcoming the work of the Commission on Science and Technology for Development on its two substantive themes "Development-oriented policies for a socio-economic inclusive information society, including policies relating to access, infrastructure and an enabling environment", and "Science, technology and engineering for innovation and capacity-building in education and research",

Recognizing the critical role of innovation in maintaining national competitiveness in the global economy,

Taking note of the outcomes of the Commission Intersessional Panel Meeting in Santiago, Chile, in November 2008 and the report prepared by the secretariat of the United Nations Conference on Trade and Development,[2]

Taking note of the reports of the Secretary-General to the Commission on Science and Technology for Development,

Welcoming the revised terms of reference of the United Nations Group on the Information Society to expand its mandate to include science and technology pursuant to General Assembly resolution 62/208 of 19 December 2007 and the decision[6] adopted by the High-level Committee on Programmes at its seventeenth session, on 26 and 27 February 2009,

Extending its appreciation to the Secretary-General for his role in helping to complete the aforementioned reports in a timely manner,

Noting that although there is wide consensus that technological innovation is a driver and critical source of sustainable economic growth in the new millennium, many developing countries have yet to benefit from the promises of science, technology and innovation,

Stressing the role of education for all as a precondition for the development of science, technology and innovation,

Reaffirming that the training and retention of scientific, technological and engineering talent, mechanisms for the funding of research, the commercialization of scientific knowledge, the building of strategic partnerships for the transfer of technology, innovative financing strategies, and an innovation-friendly culture can play critical roles in harnessing scientific and technological knowledge for development,

Recognizing the role science, technology and engineering can play in developing solutions for the problems facing the world today including climate change, and the food and energy crises, and that most of the knowledge that

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[5] General Assembly resolution 60/1, para. 60.

[6] UNGIS-4-Doc-5.

countries need in order to address their most urgent social and economic problems already exist,

Extending its appreciation to UNCTAD for the particular attention given to the needs of African countries in the area of science and technology to stimulate economic growth and reduce poverty by undertaking science, technology and innovation policy reviews for Angola, Ghana, Lesotho and Mauritania, and organizing training sessions,

1. *Invites* the Secretary-General to initiate a process to develop and make available a guide for United Nations personnel in the preparation of United Nations Development Assistance Frameworks and Common Country Assessments, and relevant stakeholders in the preparation of poverty reduction strategy papers, identifying opportunities that science, technology and innovation can provide at the country level towards eradication of poverty and achievement of the Millennium Development Goals;

2. *Decides* to make the following recommendations for consideration by national Governments, the Commission on Science and Technology for Development, and the United Nations Conference on Trade and Development:

(a) Governments are encouraged to take into account the findings of the Commission and undertake the following actions:

(i) Mainstream science and technology promotion and investment into their national development plans;

(ii) Formulate and implement policies and programmes to:

a. Strengthen science and mathematics education and mentorship for students in primary and secondary schools;

b. Expand opportunities for science, technology and engineering education and research for their population, especially women and particularly in the emerging technologies such as biotechnology and nanotechnology, as appropriate;

c. Provide, where possible, suitable working conditions for their scientific, technological and engineering talent, especially young graduates and women, in order to prevent brain drain;

d. Develop mechanisms, including innovative solutions for expanding rural power supply, and the provision of broadband access to poor communities in rural areas not covered by market-driven investment to ensure access to science, technology and engineering for women, youth, the rural poor, and other marginalized groups in all countries;

e. Promote research and development in scientific, technological and engineering fields, which supports, inter alia, grass-roots food production and entrepreneurial activities of the rural population;

f. Strengthen, as appropriate, linkages between the private sector, academia and financial institutions and incentives for commercialization of research and development by promoting entrepreneurship, increased venture capital funding, the establishment of technology parks and incubators, and greater international collaboration;

g. Increase the number of full-time researchers in science, technology and engineering;

(iii) Create innovative funding strategies and compensation and reward structures in academic and research institutions to provide incentives for scientific and technological talent to remain within their countries and promote research directed to addressing national and regional development challenges;

(iv) Establish international needs-based partnerships, where countries and their private sectors collaborate on research and development, including the commercialization of research results to address similar development challenges, especially those related to areas of health, agriculture, conservation, sustainable use of natural resources and environmental management, energy, forest and the impact of climate change;

(v) Develop a culture of innovation and entrepreneurship, support the development of technological capabilities in small and medium-size enterprises and promote incubators for promising technologies;

(vi) Launch campaigns to raise awareness of the importance of innovation for wealth creation and national welfare through mass media and high-profile awards;

(vii) Reaffirm the essential role that official development assistance plays as a complement to other sources of financing for development, and fulfil the internationally agreed commitments regarding official development assistance in order to contribute to the efforts of the developing countries in building their indigenous capabilities in science and technology;

(viii) Make considered decisions to balance short-term and long-term science, technology and innovation goals and policies, evaluating the advantages and disadvantages of procuring or licensing technologies, as compared with producing them indigenously;

(ix) Focus national efforts, when facing a generally low level of science, technology and innovation capacity, on building and strengthening indigenous scientific, technical, vocational and engineering capacities to select and use existing knowledge resources, in order to create jobs, generate wealth and achieve the Millennium Development Goals;

(b) The Commission on Science and Technology for Development is encouraged to:

(i) Play the role of torch-bearer for innovation and innovation-oriented planning, and support efforts by national Governments to integrate science, technology and innovation into national development strategies by providing a forum for developing countries, the international community, the science, technology and innovation policy research community and other interested parties to:

a. Share and analyse available empirical evidence on technological earning and science, technology and innovation policy impacts;

b. Identify critical gaps in "innovation system" understanding that the policy research community might usefully address;

e. Provide a forum to share best practices and information on new technologies, financing mechanisms, and regulatory measures for providing broadband connectivity in their respective communities; as well as a range of access strategies and technologies to supplement broadband Internet access and support all levels of socio-economic activity in a country, with a focus on reaching women and the population in rural areas;

(ii) Explore the possibility of organizing an Internet-based science, technology and innovation collaborative network, in conjunction with the United Nations Conference on Trade and Development, the regional commissions and other appropriate stakeholders. This network could promote regional and global cooperation by collecting information related to science, technology and engineering capacity-building in education, research and innovation, technology development and transfer, prospects for commercialization of knowledge-based products, opportunities for collaboration and joint ventures and related issues. It could also serve as a repository of regional and subregional initiatives that could encourage further use of the Internet by all interested stakeholders;

(c) UNCTAD is encouraged to:

(i) Reaffirm its mandate in respect of science and technology for development and place greater emphasis on the role of innovation within its mandate;

(ii) Improve the existing collaboration on science and technology for development within the United Nations system, particularly with the United Nations Educational, Scientific and Cultural Organization, the Commission on Science and Technology for Development and the United Nations regional commissions, and with other appropriate stakeholders, including the World Bank;

(iii) Continue providing its expertise and analytical skills for science, technology and innovation policy reviews and by organizing training sessions, particularly for African countries, aimed at providing information-based policy recommendations and proposed action plans to assist developing countries with their specific needs and circumstances;

(iv) Develop a clearing house for common development challenges that can be addressed through scientific, technological and science, technology and innovation-related issues, including financing and regulation, and convene representatives of developing countries with similar concerns to explore concrete ways of engaging and partnering in solutions;

(v) Collaborate with less-developed countries to create conditions that make them attractive to foreign direct investment in science and technology, including information and communication technologies;

(vi) Develop a training programme for sharing best practices on science, technology and innovation capacity-building in developing countries, using extrabudgetary resources;

(vii) Continue to assist African countries in their efforts to build science, technology and innovation capacities through training and workshops, particularly in the areas of biotechnology and cyber-security, and invite donors

to support the network of Centres of Excellence, currently sponsored by the Government of Italy, and expand it to include other regions.

B. Draft decision for adoption by the Council

2. The Commission on Science and Technology for Development recommends to the Economic and Social Council the adoption of the following draft decision:

Report of the Commission on Science and Technology for Development on its twelfth session and provisional agenda and documentation for the thirteenth session of the Commission*

The Economic and Social Council

(a) Takes note of the report of the Commission on Science and Technology for Development on its twelfth session;[7]

(b) Approves the provisional agenda and documentation for the thirteenth session of the Commission as set out below.

Provisional agenda and documentation for the thirteenth session of the Commission

1. Adoption of the agenda and other organizational matters.

2. Progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society at the regional and international levels.

Documentation

Report of the Secretary-General

3. Priority themes:

(a) Improvements and innovations in existing financing mechanisms;

Documentation

Report of the Secretary-General

(b) New and emerging technologies.

Documentation

Report of the Secretary-General

4. Presentation of reports on science, technology and innovation policy reviews.

5. Implementation of and progress made on decisions taken at the twelfth session of the Commission.

* For the discussion, see chap. VI.
[7] *Official Records of the Economic and Social Council, 2009, Supplement No. 11* (E/2009/31).

6. Election of the Chairperson and other officers for the fourteenth session of the Commission.

7. Provisional agenda and documentation for the fourteenth session of the Commission.

8. Adoption of the report of the Commission on its thirteenth session.

Chapter II

Progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society at the regional and international levels

1. At its 1st to 4th, 7th and 8th meetings, on 25, 26, 28 and 29 May 2009, the Commission considered item 2 of its agenda. It had before it the following documents:

(a) Report of the Secretary-General on progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society at the regional and international levels (A/64/64-E/2009/10);

(b) Summary report prepared by the UNCTAD secretariat on the meeting of the intersessional panel of the Commission, held in Santiago, Chile, from 12 to 14 November 2008 (E/CN.16/2009/CRP.1).

2. At the 2nd meeting, on 25 May, the Head of the secretariat of the Commission on Science and Technology for Development, UNCTAD, introduced the report of the Secretary-General, contained in document A/64/64-E/2009/10.

Ministerial round table on the follow-up to and implementation of the outcomes of the World Summit on the Information Society

3. At its 2nd meeting, on 25 May, the Commission held a Ministerial round table on "The follow-up to and implementation of the outcomes of the World Summit on the Information Society", moderated by Art Reilly, Senior Director, Strategic Technology Policy at Cisco Systems and the representative of the International Chamber of Commerce.

4. An interactive dialogue ensued in which the following participants took part: Eugenia Flores, Minister of Science and Technology, Costa Rica; Datuk Maximus Ongkili, Federal Minister of Science, Technology and Innovation, Malaysia; Pedro S. Teta, Vice-Minister for Telecommunications and Information Technologies, Angola; Bassem Rousan, Minister of Information and Communication Technology, Jordan; Kwaku Ofosu-Adarkwa, Chief Director, Ministry of Communications, Ghana; El Hedi Chey, Minister of Communication Technologies, Tunisia; Rashad Nabiyev, Head, Department of Financial and Economic Analysis, Azerbaijan; Fortunato Dela Peña, Undersecretary for Science and Technology, Department of Science and Technology, Philippines.

5. Also at the 2nd meeting, presentations were made by the Deputy Secretary-General of ITU, and the representative of the secretariat of the Internet Governance Forum.

6. Statements were also made by the representatives France, Iran (Islamic Republic of), Switzerland, Brazil, Cuba, Austria and South Africa, as well as by the observers for Honduras, on behalf of the Group of Latin American and Caribbean States, and Egypt.

7. The Executive Coordinator of the Global Alliance for Information and Communication Technologies and Development also made a statement.

8. Closing remarks were made by the Deputy Secretary-General of ITU.

9. At its 3rd meeting, on 26 May, the Commission held a joint panel discussion between the Commission on Science and Technology for Development, ITU and the Global Alliance for Information and Communication Technologies and Development on the topic entitled "Mobile technology, convergence and social networking tools for development and poverty eradication", and heard an opening statement by the Chairman.

10. Statements were also made by the Deputy Secretary-General, ITU, and the Co-Chair, Global Alliance for Information and Communication Technologies and Development.

11. The panel was moderated by Ayesha Hassan, Senior Policy Manager, Electronic Business, IT and Telecommunications, Executive in charge of Information and Communication Technologies Policy, International Chamber of Commerce.

12. Presentations were made by Yrjö Länsipuro, ICT/Information Society Policy Coordinator, Ministry for Foreign Affairs, Unite for General Global Affairs, Finland; Sanjay Kaul, Vice-President, Multimedia Solutions, Ericsson; Houlin Zhao, Deputy Secretary-General of ITU; Ramón Garza, CEO Indigo Brainmedia, Mexico; Fouad Bajwa, Gerry Morgan Foundation, Pakistan; Gabrielle Gauthey, Senior Vice-President, Public Affairs, Alcatel-Lucent; and Kamal Quadir, CEO and Founder, CellBazaar Inc., Bangladesh.

13. Lead discussants were Art Reilly, Senior Director, Strategic Technology Policy, Cisco Systems, and Alan Greenberg, Consultant, Canada.

14. Statements were made by the representatives of Finland, Ghana, France, South Africa, Malaysia and Israel, as well as by the observer for Canada.

15. Statements were also made by the following representatives from civil society: École Nationale Supérieure de Techniques Avancées and Interfaith International.

16. At its 4th meeting, on 26 May, the Commission held a joint CSTD-WHO-ITU-GAID panel discussion on the topic, "Delivering innovation in global public health".

17. The panel was moderated by Dr. Michael St. Louis, Chief Science Officer for Global Health, Centers for Disease Control and Prevention.

18. Presentations were made by Dr. Tawfik A. M. Khoja, Director-General, Executive Board, Council of Health Ministers, Cooperation Council States, Riyadh, Saudi Arabia; Dr. Rim Ben Aissa, Tunisian Mothers' Association; Dr. Ramesh Krishnamurthy, Centers for Disease Control and Prevention; Dr. Patricia Mechael, mHealth and Telemedicine Adviser, Millennium Villages Project; Sayavé Gnoumou, Nazounki — Global Medical Network; Claire Thwaites, Head, United Nations Foundation and Vodafone Foundation Partnership; Hajo van Bejima, Co-Founder, Text to Change; Dr. Najeeb Mohamed Al Shorbaji, WHO; Dr. Charles Gardner, Coordinator, Global Forum for Health Research; and P. Häkansson, Ericsson AB.

19. Lead discussants were Denis Gilhooly, Principal Adviser, United Nations Office for Partnerships, Executive Director, Digital He@lth Initiative, and Pierpaolo Saporito, President, Observatory for Cultural and Audiovisual Communication.

20. Statements were made by the representatives of Pakistan, Oman, the Philippines and Ghana.

21. Statements were also made by the following representatives from civil society: École Nationale Supérieure de Techniques Avancées and IT for Change.

22. At the same meeting, the Commission was informed that, in accordance with Economic and Social Council resolution 2008/29, the Chairman's summary of the panel discussion would be transmitted to the Economic and Social Council at the high-level segment in July, as an input to the 2009 Economic and Social Council annual ministerial review on the theme, "Implementing the internationally agreed goals and commitments in regard to global public health" (see annex I).

Action taken by the Commission

Assessment of the progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society

23. At the 7th meeting, on 28 May 2009, the representative of El Salvador, also on behalf of Finland, France, Portugal and Switzerland, introduced a draft proposal on the assessment of the progress made in regard to the World Summit on the Information Society, which was circulated in English only.

24. At its 9th meeting, on 29 May, the Commission had before it a draft text, submitted by the Chairman, Juan Eduardo Eguiguren (Chile), circulated in English only.

25. A statement on the outcome of informal consultations on the draft text was made by the representative of El Salvador.

26. Following statements made by the representatives of Brazil and the Dominican Republic, the Commission adopted the draft text and recommended it to the Economic and Social Council for adoption (see chap. I, sect. A, draft resolution I).

27. A statement was made by the representative of Tunisia.

Chapter III

Priority themes:

(a) Development-oriented policies for a socio-economic inclusive information society, including access, infrastructure and an enabling environment

(b) Science, technology and engineering for innovation and capacity-building in education and research

(c) Presentation of reports on science, technology and innovation policy reviews

1. At its 1st and 5th to 8th meetings, on 25, 28 and 29 May 2009, the Commission considered item 3 of its agenda. It had before it the following documents:

(a) Report of the Secretary-General on development-oriented policies for a socio-economic inclusive information society, including access, infrastructure and an enabling environment (E/CN.16/2009/2);

(b) Report of the Secretary-General on science, technology and engineering for innovation and capacity-building in education and research (E/CN.16/2009/3);

(c) Summary report prepared by the UNCTAD secretariat on the meeting of the intersessional panel of the Commission, held in Santiago, Chile, from 12 to 14 November 2008 (E/CN.16/2009/CRP.1).

2. At the 5th meeting, on 27 May, an introductory statement under agenda item 3 (b) was made by the representative of UNCTAD.

3. At the same meeting, a statement was made by the representative of the World Bank.

4. At its 7th meeting, on 28 May, the Commission considered agenda item 3 (a), and heard an introduction by the representative of UNCTAD.

Ministerial round table on the role of science, technology and innovation in stimulating economic growth and alleviating poverty

5. At its 1st meeting, on 25 May, under agenda item 3 (b), the Commission held a ministerial round table on "Science, technology and innovation in stimulating economic growth and alleviating poverty", moderated by Bertrand de la Chapelle, Special Envoy for the Information Society, Ministry of Foreign and European Affairs of France.

6. An interactive dialogue ensued in which the following participants took part: Fortunato Dela Peña, Undersecretary for Science and Technology, the Philippines; Edward K. Omane Boamah, Deputy Minister of Environment, Science and Technology, Ghana; Dr. Maximus J. Ongkili, Federal Minister of Science, Technology and Innovation, Malaysia; Muhammad Azam Khan Swati, Minister, Ministry of Science and Technology, Pakistan; Yahya Saud Al Sulaimi, Minister,

Ministry of Education, Oman; Euginia Flores, Minister of Science and Technology, Costa Rica; Tissa Vitarana, Minister, Ministry of Science and Technology, Sri Lanka; El Tayeb Idris Eisa, Secretary-General, Ministry of Science and Technology, Sudan; and Derek Hanekom, Deputy Minister, Department of Science and Technology, South Africa.

7. The representative of El Salvador made a statement.

8. At the same meeting, Mr. Datuk Maximus Ongkili, Federal Minister of Science, Technology and Innovation, Malaysia (Vice-Chairman) made a presentation on the outcome of the International Conference of Global Food Security: The Role of Science and Technology, held in Kota Kinabalu, Sabah, Malaysia, on 17 and 18 February 2009 (E/CN.16/2009/CRP.2).

9. The Acting Deputy Secretary-General, UNCTAD, made concluding remarks.

10. At the 5th meeting, on 27 May, under agenda items 3 (b) and 3 (c), presentations were made by the Minister of Science and Technology, Sri Lanka; the Deputy Minister of Environment, Science and Technology, Ghana; and the Minister of Communications, Science and Technology, Lesotho.

11. Statements were made by the representatives of Cuba, the Democratic Republic of the Congo, Pakistan, the United States of America, Ghana, South Africa, the Dominican Republic and India.

12. A statement was also made by the representative of the Organization for Economic Cooperation and Development.

13. At the 6th meeting, on 27 May, presentations were made by the Deputy Secretary of the Abu Dhabi Executive Council, United Arab Emirates; the President of SERPRO, Brazil; the Senior Deputy Minister, Ministry of Science and Technology, Iraq; the Director, Directorate-General of Education and Training, Oman; and the Chief Director, International Relations, Department of Science and Technology, South Africa.

14. At the same meeting, the representative of the World Bank made a presentation on the second World Bank Global Forum on Science, Technology and Innovation.

15. Statements were made by the representatives of the Philippines and Austria, as well as by the observers for Angola, Rwanda and Algeria.

16. A statement was also made by the representative of IT for Change.

17. At its 7th meeting, on 28 May, a presentation was made by the Senior Consultant, Greenberg ICT Services.

18. An interactive dialogue ensued in which the representatives of France, Portugal, South Africa, Ghana and India, as well as the representative of IT for Change, took part.

19. Statements were made by the representatives of Cuba, the United States of America and Sri Lanka, as well as by the observers for Algeria, Morocco and Rwanda.

Action taken by the Commission

20. At its 7th meeting, on 28 May 2009, the representative of Sri Lanka introduced a draft proposal on science and technology for development, circulated in English only.

21. At its 8th meeting, on 29 May, the Commission had before it a draft text, submitted by the Chairman, Juan Eduardo Eguiguren (Chile), circulated in English only.

22. A statement on the outcome of informal consultations on the draft text was made by the representative of Sri Lanka.

23. Statements were made by the representatives of the United States of America, Pakistan, Eritrea, India, Brazil, Lesotho, the Dominican Republic, Argentina, Cuba and Sri Lanka, as well as by the observer for Algeria.

24. Following a statement by the representative of Eritrea, the Commission adopted the draft text (see chap. I, sect. A, draft resolution II).

25. Statements were made by the representatives of Argentina, Eritrea and the United States of America, as well as by the observers for Egypt and the Czech Republic (on behalf of the European Union).

26. Statements were also made by the representatives of the International Chamber of Commerce, the Association for Progressive Communications and IT for Change.

Chapter IV

Implementation of and progress made on decisions taken at the eleventh session of the Commission

1. At its 7th meeting, on 28 May 2009, the Commission considered item 4 of its agenda.

2. At the same meeting, the Commission heard an introductory statement by the representative of UNCTAD.

3. Statements were made by the representatives of the Sudan, Slovakia, the Dominican Republic and Ghana, as well as by the observer for Algeria.

4. Statements were also made by the following representatives from civil society: Tunisian Association of Development of Digital Technology and Human Resources, Centre du commerce international pour le développement, and Scientific Information Development Laboratory.

Chapter V

Election of the Chair and other officers for the thirteenth session of the Commission

At its 9th meeting, on 29 May 2009, the Commission considered item 5 of its agenda and elected by acclamation the following officers for its thirteenth session:

Chairman:

Frédéric Riehl (Switzerland)

Vice-Chairmen:

Štefan Morávek (Slovakia)
Edward K. Omane Boamah (Ghana)
Miguel Angel Alcaine Castro (El Salvador)
Sarvagya Katiyar (India)

Chapter VI

Provisional agenda and documentation for the thirteenth session of the Commission

1. At its 9th meeting, on 29 May 2009, the Commission considered item 6 of its agenda. It had before it an informal paper containing the draft provisional agenda for its thirteenth session.

2. At the same meeting, following statements by the representatives of the United States of America, Cuba and Sri Lanka, the Commission approved a draft decision on the provisional agenda and documentation for its thirteenth session, and recommended it to the Economic and Social Council for adoption (see chap. III, sect. B).

3. A statement was made by the observer for Rwanda.

Chapter VII

Adoption of the report of the Commission on its twelfth session

1. At the 9th meeting, on 29 May, the Vice-Chairman and Rapporteur of the Commission introduced the draft report of the Commission on its twelfth session (E/CN.16/2009/L.1).

2. At the same meeting, the Commission adopted the draft report on its twelfth session and entrusted the Rapporteur with its completion.

Chapter VIII
Organization of the session

A. Opening and duration of the session

1. The Commission on Science and Technology for Development held its twelfth session at the United Nations Office at Geneva from 25 to 29 May 2009. The Commission held nine meetings (1st to 9th).

2. The session was opened by the Chairman, Juan Eduardo Eguiguren (Chile), who also made a statement.

3. Also at the 1st meeting, on 25 May, the Secretary-General of the United Nations Conference on Trade and Development addressed the Commission.

4. At the same meeting, the following speakers addressed the Commission: Dr. Hamadoun Touré, Secretary-General of the International Telecommunication Union; Talal Abu-Ghazaleh, Chairman and CEO, Talal Abu Ghazaleh Organization; Jörg Frieden, Assistant Director-General, Swiss Agency for Development and Cooperation; and Anriette Esterhuysen, Executive Director, Association for Progressive Communications.

B. Attendance

5. The session was attended by representatives of 42 States members of the Commission. Observers for other States Members of the United Nations, representatives of organizations of the United Nations system and representatives of intergovernmental and non-governmental organizations, as well as representatives of civil society and business entities also attended. The list of participants for the session is contained in document E/CN.16/2009/INF/1.

C. Election of officers

6. At the 10th meeting of its eleventh session, on 30 May 2008, the Commission had elected the following members of the Bureau of its twelfth session by acclamation:

Chairman:

Juan Eduardo Eguiguren (Chile)

Vice-Chairmen:

Yrjö Länsipuro (Finland)
Maximus J. Ongkili (Malaysia)
Štefan Morávek (Slovakia)
El Tayeb Idris Eisa (Sudan)

7. At its 1st meeting, on 25 May, the Commission appointed Yrjö Länsipuro (Finland), in addition to serving as Vice-Chairman, to serve also as Rapporteur of the twelfth session of the Commission.

D. Agenda and organization of work

8. At its 1st meeting, on 25 May, the Commission adopted its provisional agenda and approved its organization of work, as contained in document E/CN.16/2009/1. The agenda read as follows:

1. Adoption of the agenda and other organizational matters.
2. Progress made in the implementation of and follow-up to the World Summit on the Information Society outcomes at the regional and international levels.
3. Priority themes:
   (a) Development-oriented policies for a socio-economic inclusive information society, including access, infrastructure and an enabling environment;
   (b) Science, technology and engineering for innovation and capacity-building in education and research;
   (c) Presentation of reports on science, technology and innovation policy reviews.
4. Implementation of and progress made on decisions taken at the eleventh session of the Commission.
5. Election of the Chair and other officers for the thirteenth session of the Commission.
6. Provisional agenda and documentation for the thirteenth session of the Commission.
7. Adoption of the report of the Commission on its twelfth session.

Annex I

Chairman's summary of panel discussion on "Delivering innovation in Global Public Health" as an input to the 2009 Economic and Social Council annual ministerial review on the theme "Implementing the internationally agreed goals and commitments in regard to global public health"

1. A joint panel organized by the Commission on Science and Technology for Development, the World Health Organization, the International Telecommunication Union and the Global Alliance for Information and Communication Technologies and Development took place on 28 May 2009, in the framework of the Commission's twelfth session. Participants concluded that innovation is more important than it has ever been in public-health provision in the light of enormous public-health challenges. Innovation in public-health provision is necessary to make the Millennium Development Goals on health achievable by 2015, which were currently far behind target, largely through making existing solutions more widely available at a lower cost. Information and communication technologies provide great opportunities for improved health service delivery through m-health and e-health services.

2. The keynote speaker made a thorough presentation on the challenges to public health and the main issues for improving innovation in public-health provision. The serious challenges to adequate public-health provision related to escalating costs of health care, health-care infrastructure, health system financing, health services workforce shortages and ensuring leadership in health care. Some of the major obstacles included social disparities in health and in access to services, political, environmental and food security threats to health, HIV/AIDS and pandemic influenza. These issues presented a global challenge because of the ease with which diseases can spread globally. Public-health innovations needed to focus on prevention, chronic disease management and access to essential medicines while simultaneously improving affordability and promoting appropriate use. The WHO World Health Assembly had adopted the global strategy and agreed to parts of the related plan of action on public health, innovation and intellectual property in May 2008. However, the strategy needed to be put into action and supported by member States. Innovation in drug development was currently skewed disproportionally towards solutions to medical problems affecting a small proportion of the global population rather than diseases of poor countries and poor people. To maximize social impact, research and development in health should be more strongly driven by public need. Recuperation of revenues through high prices of drugs also served to severely restrict access and reduce the availability of some important drugs.

3. There were also important issues with access to health research results and improved management of medical information through health information technology programmes. Improvements in public-health provision could be achieved by increasing support for knowledge production, transfer, reception and use in health through better funding, robust career support to health providers and researchers, improved access to information via networks, improving the uptake of innovations in health delivery, rewarding innovative knowledge production through health innovation awards, strengthening the academic structure for public-health sciences and promoting a more informed dialogue on public health.

4. Some speakers pointed out that e-health, m-health and telemedicine had the potential for improving seemingly intractable problems in health-care provision, such as limited access and uneven quality of care, as well as those attributed to cost. These new applications of ICT towards health-care provision had created avenues for medical diagnosis and patient care to take place without face-to-face contact between providers and patients. For example, the use of ICT for patient data management and remote consultation, particularly in remote and underserved areas in developing countries, was said to be a major contribution in the use of ICT for public health provision. Several speakers raised the issue of what types of relations were possible between traditional health practitioners and doctors and nurses in remote parts of developing countries, where doctors and nurses may be scarce and too expensive for poor people to access. One speaker noted that local traditional knowledge and community participation in public-health provision were important. Indeed, the content of health delivery was the key; the mechanism of delivery was absolutely secondary in importance.

5. One speaker argued that ICT could be used in the fight against sexually transmitted diseases and maternal and childcare through the dissemination of information and sensitization. The speaker argued that websites and mobile phones were instrumental in the fight against HIV/AIDS, and cited instances where they had been used successfully in Tunisia. Another speaker provided some examples where ICT were used to impact on public health in remote African countries. The examples included the use of toll-free numbers, data collection and the creation of support groups to address health-care issues.

6. Some participants observed that ICT alone was insufficient to promote adequate health-care delivery and that basic health-care provision challenges remained, such as training of health-care providers, the brain drain of health professionals, the lack of essential medicines and access to health technologies such as magnetic resonance imaging (MRI) scans, simple diagnostics and prophylaxis.

7. Participants stressed that in order for ICT to be fully exploited for health, particularly in developing countries, further research on their viability needed to be carried out and a number of issues should be taken into consideration. Those issues included infrastructural challenges, how illiteracy hindered the optimal use of ICT by patients, and the lack of ICT training for people along the health-care value chain for the coordination of patient management systems, diagnostic use and monitoring.

8. Participants noted that countries should adopt an all-inclusive approach in the strategic alignment of ICT and health-care stakeholders. There was currently a general lack of coordination at the national level in many countries between authorities in charge of ICT and ministries of health. Policies in the two areas needed to be integrated. There was also a pattern of fragmented approaches to e-health emerging in developing countries with too many players and no coherent road map. It was also noted that innovation in public-health provision models could not be simply copied from other countries without tailoring to local circumstances. Participants also noted that public-private partnerships for ICT should be supported by Governments and by donor communities. WHO had instituted e-health initiatives and was promoting the use of ICT in public health.

9. One speaker raised the issue of the negative health impact of mobile phone disposal in some developing countries and the dumping of e-waste, suggesting that guidelines were needed for the disposal of e-waste. Other speakers agreed that that

was an important issue, and several noted that that there was currently a big push to look at environmental issues related to ICT.

10. Several speakers noted the central importance of open source, open access and open standards for medical information and e-health.

11. The panel discussion highlighted the potential and challenges of e-health, with examples of implementation from around the world. As with the application of any technology in health, the central questions are: What should be the driver of its development and implementation? How can its adoption and utilization be cost-effective as well as contribute to public health and health care? What are the most effective modes of collaboration and prioritization where there are many stakeholders, resources and capacity may be limited — but needs are greatest?

Annex II

List of documents before the Commission at its twelfth session

Document symbol	*Agenda item*	*Title or description*
A/64/4-E/2009/10	2	Report of the Secretary-General on progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society at the regional and international levels
E/CN.16/2009/1 and Corr.1	1	Provisional annotated agenda and organization of work
E/CN.16/2009/2	2	Report of the Secretary-General on development-oriented policies for a socio-economic inclusive information society, including access, infrastructure and enabling environment
E/CN.16/2008/3	3 (b)	Report of the Secretary-General on science, technology and engineering for innovation and capacity-building in education and research
E/CN.16/2009/L.1	7	Draft report of the Commission on its twelfth session
E/CN.16/2009/CRP.1[a]	2 and 3	Summary report prepared by the UNCTAD secretariat on the meeting of the intersessional panel of the Commission, held in Santiago, Chile, from 12-14 November 2008
E/CN.16/2009/CRP.2[b]	2	Report on the Conference of Global Food Security: The Role of Science and Technology prepared by National Biotechnology Division, Ministry of Science, Technology and Innovation, Malaysia

[a] Available at http://www.unctad.org/cstd.
[b] http://www.unctad.org/en/docs/ecn162009crp2_en.pdf.

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